The 5G Appeal Scientists warn of potential serious health effects of 5G

We the undersigned, scientists and doctors, recommend a moratorium on the roll-out of the fifth generation, 5G, for telecommunication until potential hazards for human health and the environment have been fully investigated by scientists independent from industry. 5G will substantially increase exposure to radiofrequency electromagnetic fields (RF-EMF) on top of the 2G, 3G, 4G, Wi-Fi, etc. for telecommunications already in place. RF-EMF has been proven to be harmful for humans and the environment.

Launched on September 13, 2017. By April 15, 2020 there are 344 signatories. Link

Appeal translated to: / DE / ES / FI / FR / IT / SV/ PL

5G leads to massive increase of mandatory exposure to wireless radiation

5G technology is effective only over short distance. It is poorly transmitted through solid material. Many new antennas will be required and full-scale implementation will result in antennas every 10 to 12 houses in urban areas, **thus massively increasing mandatory exposure.**

With "the ever more extensive use of wireless technologies," nobody can avoid to be exposed. Because on top of the increased number of 5G-transmitters (even within housing, shops and in hospitals) according to estimates, "10 to 20 billion connections" (to refrigerators, washing machines, surveillance cameras, self-driving cars and buses, etc.) will be parts of the Internet of Things. All these together can cause a substantial increase in the total, long term RF-EMF exposure to all EU citizens.

Harmful effects of RF-EMF exposure are already proven

Over 230 scientists from more than 40 countries have expressed their "serious concerns" regarding the ubiquitous and increasing exposure to EMF generated by electric and wireless devices already before the additional 5G roll-out. They refer to the fact that "numerous recent scientific publications have shown that *EMF affects living organisms at levels well below most international and national guidelines*". Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plants and animals.

After the scientists' appeal was written in 2015 additional research has convincingly confirmed serious health risks from RF-EMF fields from wireless technology. The world's largest study (25 million US dollar) National Toxicology Program (NTP), shows statistically significant increase in the incidence of *brain and heart cancer* in animals exposed to EMF below the ICNIRP (International Commission on Non-lonizing Radiation Protection) guidelines followed by most countries. These results support results in human epidemiological studies on RF radiation and brain tumour risk. A large number of peer-reviewed scientific reports demonstrate harm to human health from EMFs.

The International Agency for Research on Cancer (IARC), the cancer agency of the World Health Organization (WHO), in 2011 concluded that EMFs of frequencies 30 KHz – 300 GHz are possibly carcinogenic to humans (Group 2B). However, new studies like the NTP study mentioned above and several epidemiological investigations including the latest studies on mobile phone use and brain cancer risks confirm that RF-EMF radiation is carcinogenic to humans.

The EUROPA EM-EMF Guideline 2016 states that "there is strong evidence that long-term exposure to certain EMFs is a risk factor for diseases such as certain cancers, Alzheimer's disease, and male infertility...Common EHS (electromagnetic hypersensitivity) symptoms include headaches, concentration difficulties, sleep problems, depression, lack of energy, fatigue, and flu-like symptoms."

An increasing part of the European population is affected by ill health symptoms that have for many years been linked to exposure to EMF and wireless radiation in the scientific literature. The International Scientific Declaration on EHS & multiple chemical sensitivity (MCS), Brussels 2015, declares that: "In view of our present scientific knowledge, we thereby stress all national and international bodies and institutions...to recognize EHS and MCS as true medical conditions which acting as sentinel diseases may create a major public health concern in years to come worldwide i.e. in all the countries implementing unrestricted use of electromagnetic field-based wireless technologies and marketed chemical substances... Inaction is a cost to society and is not an option anymore... we unanimously acknowledge this serious hazard to public health...that major primary prevention measures are adopted and prioritized, to face this worldwide pan-epidemic in perspective."

Precautions

The Precautionary Principle (UNESCO) was adopted by EU 2005: "When human activities may lead to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm."

Resolution 1815 (Council of Europe, 2011): "Take all reasonable measures to reduce exposure to electromagnetic fields, especially to radio frequencies from mobile phones, and particularly the exposure to children and young people who seem to be most at risk from head tumours... Assembly strongly recommends that the ALARA (as low as reasonably achievable) principle is applied, covering both the so-called thermal effects and the athermic [non-thermal] or biological effects of electromagnetic emissions or radiation" and to "improve risk-assessment standards and quality".

The Nuremberg code (1949) applies to all experiments on humans, thus including the roll-out of 5G with new, higher RF-EMF exposure. All such experiments: "should be based on previous knowledge (e.g., an expectation derived from animal experiments) that justifies the experiment. No experiment should be conducted, where there is an a priori reason to believe that death or disabling injury will occur, except, perhaps, in those experiments where the experimental physicians also serve as subjects." (Nuremberg code pts 3-5). Already published scientific studies show that there is "a priori reason to believe" in real health hazards.

The European Environment Agency (EEA) is warning for "Radiation risk from everyday devices" in spite of the radiation being below the WHO/ICNIRP standards. EEA also concludes: "There are many examples of the failure to use the precautionary principle in the past, which have resulted in serious and often irreversible damage to health and environments...harmful exposures can be widespread before there is both 'convincing' evidence of harm from long-term exposures, and biological understanding [mechanism] of how that harm is caused."

"Safety guidelines" protect industry — not health

The current ICNIRP "safety guidelines" are obsolete. All proofs of harm mentioned above arise although the radiation is below the ICNIRP "safety guidelines". Therefore new safety standards are necessary. The reason for the misleading guidelines is that "conflict of interest of ICNIRP members due to their relationships with telecommunications or electric companies undermine the impartiality that should govern the regulation of Public Exposure Standards for non-ionizing radiation...To evaluate cancer risks it is necessary to include scientists with competence in medicine, especially oncology."

The current ICNIRP/WHO guidelines for EMF are based on the obsolete hypothesis that "The critical effect of RF-EMF exposure relevant to human health and safety is heating of exposed tissue." However, scientists have proven that many different kinds of illnesses and harms are caused without heating ("non-thermal effect") at radiation levels well below ICNIRP guidelines.

We urge EU:

- 1) To take all reasonable measures to halt the 5G RF-EMF expansion until independent scientists can assure that 5G and the total radiation levels caused by RF-EMF (5G together with 2G, 3G, 4G, and WiFi) will not be harmful for EU-citizens, especially infants, children and pregnant women, as well as the environment.
- 2) To recommend that all EU countries, especially their radiation safety agencies, follow Resolution 1815 and inform citizens, including, teachers and physicians, about health risks from RF-EMF radiation, <u>how</u> and <u>why</u> to avoid wireless communication, particularly in/near e.g., daycare centers, schools, homes, workplaces, hospitals and elderly care.
- 3) To appoint immediately, without industry influence, an EU task force of independent, truly impartial EMF-and-health scientists with no conflicts of interest^[1] to re-evaluate the health risks and:
 - 1. a) To decide about new, safe "maximum total exposure standards" for all wireless communication within EU.
 - 2. b) To study the total and cumulative exposure affecting EU-citizens.
 - 3. c) To create rules that will be prescribed/enforced within the EU about how to avoid exposure exceeding new EU "maximum total exposure standards" concerning all kinds of EMFs in order to protect citizens, especially infants, children and pregnant women.
- 4) To prevent the wireless/telecom industry through its lobbying organizations from persuading EU-officials to make decisions about further propagation of RF radiation including 5G in Europe.
- 5) To favor and implement wired digital telecommunication instead of wireless.

We expect an answer from you no later than October 31, 2017 to the two first mentioned signatories about what measures you will take to protect the EU-inhabitants against RF-EMF and especially 5G radiation. This appeal and your response will be publicly available.

Respectfully submitted,

Rainer Nyberg, EdD, Professor Emeritus (Åbo Akademi), Vasa, Finland (NRNyberg@abo.fi)

Lennart Hardell, MD, PhD, Professor (assoc) Department of Oncology, Faculty of Medicine and Health, University Hospital, Örebro, Sweden (lennart.hardell@regionorebrolan.se)

^[1] Avoid similar mistakes as when the Commission (2008/721/EC) appointed industry supportive members for SCENIHR, who submitted to EU a misleading SCENIHR report on health risks, giving telecom industry a clean bill to irradiate EU-citizens. The report is now quoted by radiation safety agencies in EU.

http://www.5gappeal.eu/the-5g-appeal/

Signatories to Scientists' 5G Appeal

Note: The endorsements are personal and not necessarily supported by the affiliated universities or organizations.

Signatories by April 15, 2020: 344

http://www.5gappeal.eu/signatories-to-scientists-5g-appeal/

EU and European Nations

AUSTRIA

Siegmund Doettelmayer, MD, MDSc, Biologic dentist, Oral surgeon, Vienna

Gerd Oberfeld, MD, Public Health Officer, Salzburg

Hanns Moshammer, Doz. Dr., Medical University of Vienna, Vienna

Sonja Schwinger, Dr. med. univ, Vienna

BELGIUM

Philippe Antoine, MD, Bruxelles

Massimiliano Sassoli de Bianchi, Ph.D. in physics, research fellow at the Center Leo Apostel for Interdisciplinary Studies (CLEA), Vrije Universiteit Brussel (VUB).

Marie-Claire Cammaerts, Dr, retired, Free University of Brussels, Bruxelles

Valérie-Anne De Wilde, MD, Clinique Saint-Luc de Bouge, Namur

Caroline Durieu, MD, Post-graduate in tropical medecine and international health ITG Antwerp, Certificate in Sports Medecine UCL-ULg, Noville-les-bois

Aude Gille, MD, specialist in emergency medicine, working in CSPO, Ottignies

Vincent Jadoulle, MD, Psychiatre. Louvain-la-Neuve

Magali Koelman, MD, DIU Santé publique (médecine scolaire), Limal

Jean-Claude Leeuwerck, MD, Bruxelles

Marie-Dominique Petit, MD, Louvain-La-Neuve

Suzanne Tenreira Martins, MD, Ophain

Leo Van den Bossche, MD, General Practioner, Puurs-Sint-Amands

André Vander Vorst, Prof. em.

Vinciane Verly, MD, Brussels

Grégoire Wieers, MD, PhD, Dr in Internal Medicine, CSPO, Genval

BULGARIA

Rossen Georgiev, PhD, Assoc. Professor in Microwave Electrodynamics and Radio Systems, Varna

Nickolay Iliev, PhD in Telecommunications, R&D Array antennas and microwaves, Sofia

Marko Markov, Professor Emeritus, Ph.D. in biophysics, Sofia University, Research international

CYPRUS

Stella Canna Michaelidou, Dr, Chemist Expert on Environment, Health and Food Safety, President of the Cyprus National Committee on Environment and Children's Health

DENMARK

Vibeke Frøkjær Jensen, Cand. Med. Vet., Ph.D, Researcher in epidemiology and scientific adviser, Council for Safe Telecommunication Denmark

FINLAND

Marjukka Hagström, LL.M, M.Soc.Sc., Senior researcher, The Finnish Electrosensitivity Foundation, Turku

David Holm, MD, Radiologist, Korsholm

Osmo Hänninen, PhD, Professor Emeritus, Dept. of Physiology, Faculty of Medicine, University of Eastern Finland; Editor-In-Chief, Pathophysiology, Kuopio

Juhani Lehtonen, MD. Physician, Specialist in internal medicin, Vora

Rauli Mäkelä, MD, retired from Antioxidantclinic Helsinki. Espoo

Rainer Nyberg, EdD, MPs. Professor emeritus (Abo Akademi University), Vasa

Mikael Nygård, PhD, Professor of Social Policy, Åbo Akademi University

Georgiy Ostroumov, PhD (in the field of RF EMF), independent researcher

Marjo Valonen, M.D., Medical Director, Astris Medical, Helsinki

FRANCE

Marc Arazi, MD, Physician (Whistleblower on Phonegate international scandal), Nogent-sur-Marne

Dominique Belpomme, MD, MSc, Full Professor in Medical Oncology; Director of ECERI, Paris University, Paris & European Cancer and Environment Research Institute, Brussels

Philippe Irigaray, PhD, Scientific Director, Association for Research on Treatment against Cancer (ARTAC), Paris; European Cancer and Environment Research Institute (ECERI), Brussels

Vincent Lauer, Ing. ECP, Independent Researcher, La Chapelle sur Erdre

Vic Norris, PhD, Professor Emeritus, University of Rouen, Bois Guillaume

Annie J Sasco, MD, DrPH, Former Director of Research, French National Institute of Health and Medical Research, Former Chief of Epidemiology for Cancer Prevention at the International Agency for Research on Cancer and Former Acting Chief of Program for Cancer Control, World Health Organization, Bordeaux

GERMANY

Franz Adlkofer, MD, Professor, Pandora-Foundation for Independent Research

Christine Aschermann, MD (retired) member of the Kompetenzinitiative e.V., Leutkirch

Mario Babilon, Dr. rer. nat., Professor, Baden-Wuerttemberg Cooperative State University Stuttgart

Wolf Bergmann, Dr. med., Kompetenzinitiative zum Schutz von Mensch, Umwelt und Demokratie e.V., Freiburg

Rainer Frentzel-Beyme, MD, Professor emeritus, University of Bremen

Kai-Thorsten Bretschneider, MD, Internal and Occupational Medicine, Wiesenkamp 133, Heikendorf

Helmut Breunig, Diploma degree in forestry, Specialty: Radio frequency injuries on trees around phone masts, Osterode am Harz

Klaus Buchner, Dr. rer. nat., Professor, MEP – Member of the European Parliament, Kompetenzinitiative zum Schutz von Mensch, Umwelt und Demokratie e.V., München

Kerstin Bögner-Zoller, Dr.med., Igersheim

Horst Eger, Dr. med., Ärztlicher Qualitätszirkel "Elektromagnetische Felder in der Medizin – Diagnostik, Therapie, Umwelt", Naila

Karl Hecht, Dr, Professor of pathophysiology and neurophysiology (Emeritus of the Medical center Charite), Berlin

Peter Hensinger, MA, diagnose-funk, consumer protection organisation, Stuttgart

Markus Kern, Dr. med., Kompetenzinitiative zum Schutz von Mensch, Umwelt und Demokratie e.V., Kempten

Markus Kiefer, MD, Spcialist in Psychiatry and Psychoteherapy, Stuttgart.

Florian M. König, Dr.Sc. Man. Dir. & Science Header of the Company/Institute "Florian König Enterprises GmbH"

Andrea Leute, Dr. med., Ärzteinitiative Mobilfunk Allgäu-Bodensee-Oberschwaben, Überlingen

Martin Lion, Dr. med., Allgemeinmedizin – Homöopathie, Ulm

Peter Ludwig, Dr. phil., Kompetenzinitiative zum Schutz von Mensch, Umwelt und Demokratie e.V., Saarbrücken

Willi Mast, Dr., Arzt für Allgemeinmedizin und Innere Medizin, Gelsenkirchen

Joachim Mutter, Dr. med., Paracelsus Clinic / Switzerland, Kompetenzinitiative zum Schutz von Mensch. Umwelt und Demokratie e.V., Konstanz

Gertraud Teuchert-Noodt, Dr., Professorin der Neurobiologie i.R., Universität Bielefeld

Peter Ohnsorge, Dr. med., European Academy for Environmental Medicine

Claudia Rashied, Dr. med., Herrenberg

Karl Richter, Dr. phil., Professor, Kompetenzinitiative zum Schutz von Mensch, Umwelt und Demokratie e.V., St. Ingbert

Susanne Richter, Dr. med., Schwaikheim

Claus Scheingraber. Dr. med. dent., German Working Group Electro-Biology, Brunnthal,

Cornelia Waldmann-Selsam, Dr.med., Competence Initiative for the Protection of Humanity Environment and Democracy e.V., Bamberg

Werner Thiede, Dr. theol., Professor, Pfarrer der Evangelisch-Lutherischen Landeskirche in Bayern und Publizist, Neuhausen

Helmut Wagner, Dr. med., Ophthalmologist, Stuttgart

Harald Walach, Professor, PhD in psychology, PhD in theory and history of science, Change Health Science Institute, Berlin; affiliation: Witten-Herdecke University, Poznan Medical University, Poland

Ulrich Warnke, Dr.rer.nat., Academic Superior Council (retired) University of Saarland

Isabel Wilke, Diplom-Biologin, Editor ElektrosmogReport, Kassel/Berlin

Rita Vogt, specialist in obstetrics and gynecology, Freiburg

Roland Wolff, Dipl.-Phys., Medical Physicist, Bremen

Ortwin Zais, PhD (Dr. med.), European Academy for Environmental Medicine

GREECE

Christos Georgiou, PhD, Member, Scientific Secretariat of ICEMS; Professor of Biochemistry, Biology Department, University of Patras, Patras

Theodore P. Metsis, PhD, Electrical, Mechanical, Environmental Engineer, Consultant, Athens

Ioannis Nasioulas, Doctor of Sociology, Social Economy Institute, Member of the Municipal Council of Thessaloniki, Thessaloniki

Dimitris J. Panagopoulos, PhD, EMF-Biophysicist, National Center for Scientific Research "Demokritos", Athens; Choremeion Research Laboratory, Medical School, National and Kapodistrian, University of Athens; EMF-Biophysics Research Laboratory, Athens

ITALY

Domenico Agrusta, Medicine and surgery, specialist in dentistry (Odontostomatologia) selfemployed, Member of ISDE, Taranto

Fernanda Amicarelli, Full Professor in Applied Biology, Department of Life, Health and Environmental Sciences, University of L'Aquila, L'Aquila

Fiorella Belpoggi, Dr., Director, Research Department, Ramazzini Institute, Bologna

Sergio Bernasconi, Full Professor of Pediatrics, former Director, Pediatric Department, Editor emeritus: Italian Journal of Pediatrics, University of Parma

Dr Franco Berrino, MD, PhD, former Director, Department of Preventive and Predictive Medicine, Istitutonazionale dei Tumori, Milan

Ernesto Burgio, MD, Pediatrician, ECERI – European Cancer and Environment Research Institute (Bruxelles)

Paolo Cardigno, MD, Medicine and Surgery, Specialist in Preventive Medicine, Parma

Dr Franco Cherubini, Degree in medicine and surgery, Self-employed, Vetralla

Dott. Agostino Di Ciaula, President of Scientific Committee, Italian Society of Doctors for the Environment – ISDE Italy, Arezzo

Dott. Andrea Cormano, MD, Italian Society of Doctors for the Environment – ISDE, Benevento

Ugo Corrieri, Degree in medicine and surgery at Università Cattolica del S. Cuore, Teacher at Scuola Romana di Psicoterapia Familiare, President of ISDE-Doctors for the Environment in Grosseto, Coordinator of ISDE-Doctors for the Environment for Central Italy, Grosseto Rome

Dr Patrizia Difonte, Physician, Surgeon, General practitioner and occupational medicine, Ass. Italiana Elettrosensibili, Lonate Pozzolo (Varese)

Anna Maria Falasconi, Medical Doctor, Primary Care Pediatrician, National Health System, Rome

Dott. Filippo Maria di Fava, Laurea in Medicina e Chirurgia, Libero professionista, Roma

Dr. Mario Frusi, MD, medico, Cuneo

Dr. Stefano Gallozzi, Astrophysician and technologist at the INAF Italian National Astrophysical Institute in the Observatory, President of the Comitato di Tutela e Salvaguardia dell'Ambiente in Monte Porzio Catone (ONLUS association), Rome

Dott. Roberto Gava, Pharmacologist and Toxicologist, ISDE, Padua

Teresa Pia Anna Maria Del Gaudio, Degree in Medicine and Surgery, specialist in pediatr. Medical Manager, ASL Salerno, Roccagloriosa (SA), Italy

Valerio Gennaro, MD, PhD, Head ,Liguria Mesothelioma Registry (COR Liguria), UO Clinical Epidemiology (IST Nord – CBA); IRCCS Policlinico Ospedale San Martino National Cancer Research Institute (IST), Genoa

Patrizia Gentilini, Degree in Medicine (specialization in Oncology and Hematology). ISDE (International Society Doctor's for Environment), FORLI'

Livio Giuliani, PhD, Professor, Università dell'Abruzzo – Corso di Laurea in Fisiatria, Chieti

Anna Guzzardo, General practitioner, ASP Palermo, Villafrati (PA)

Angelo Levis, PhD. Professor, Biologist, University of Padua

Roberto Lucchini, MD, Professor of Occupational Medicine, University of Brescia

Salvatore Magazù, PhD, Full Professor of Experimental Physics, Dipartimento di Scienze Matematiche e Informatiche, Scienze Fisiche e Scienze della Terra, Università di Messina

Fiorenzo Marinelli, PhD, Institute of Molecular Genetics (IGM), National Research Council (CNR), Member of the International Commission for Electromagnetic Safety (ICEMS), Bologna

Tommaso Morbiato, PhD, R&D Head, CEO, Founder Windcity, Padova

Antonio Maria Pasciuto, Degree in Medicine and Surgery, Specialist in Internal Medicine, President of ASSIMAS (Associazione Italiana Medicina Ambiente e Salute), Rome

Dott. Carlo Ratti, MD, Ordine dei Medici della SPEZIA, Genova

Ruggero Ridolfi, MD, Oncologist Endocrinologist, ISDE, Forlì-Cesena,

Dr. Med. Sandro Rinaldi, Laurea in medicina e chirurgia; specializzazione in Allergologia, specializzazione in Ematologia. Medico di medicina generale convenzionato con l'Azienda Sanitaria di Bolzano, Terlano (BZ)

Massimo Melelli Roia, MD, Italian Society of Doctors for the Environment – ISDE, Perugia

Dott. Roberto Romizi, President, Italian Society of Doctors for the Environment – ISDE, Arezzo

Dott.ssa Ida Santellocco, MD, Medico chirurgo, Pediatria, medico chirurgo – pediatra, Roma

Massimo Scalia, Coordinator of the Bioelectromagnetism Section of CIRPS (Interuniversity Research Center for Sustainable Development)

Alessandro Solerio, Degree in Medicine and Surgery, Self-employed, homeopath, Sanremo

Giancarlo Spadanuda, PhD, Professor of Electronics Engineering and EMF Emissions, Special Consultant Against Electrosmog for the Supreme Court and several courts in Italy, Reggio, Calabria, Italy

Franco Verzella, MD, physician, practice dedicated to autistic children, Bologna,

Myriam Zucca, Dr. ssa, Medical Director, Dermatology, Cagliari University Hospital, Sardinia

MALTA

Godfrey Farrugia, MD, MMCFD, Dr (of Medicine and Surgery), Member of the Maltese National Parliament, Haz-Zebbug

Pierre Mallia, MD PhD CBiol MPhil MA(Law) DipICGP MMCFD MRCP FRCGP, Professor of Family Medicine, Bioethics & Patients' Rights; Chairperson National Health Ethics Committee, Dept. of Health Coordinator Bioethics Research Programme, Univ. of Malta; President, Malta College of Family Doctors

NETHERLANDS

Laila Alberts, MD, Hilversum

Simone Ardesch, MD, Heiloo

Jacqueline Blommers, MD, Artsenpraktijk Blommers, Amersfoort

Wilma Bos, MD, Alkmaar

Daniëlle Bourne, MD, Utrecht

Ed Brink, MD, Beekbergen

Margreet de Wolff, MD, Apeldoorn

JCH Jansen, MD, Onderdendam

Wil de Jong, MD, Driebergen

Karel Gerritse, MD, Vught

Gerrit-Jan Gerritsma, MD, Lelystad

Marjolein Hamming, MD, public youth health care, Zwolle

Jippe Holwerda, MD, Utrecht

Mayra Klaver, Msc physician, Sassenheim

Rein Kleipool, MD, Amsterdam

Dick Koster, MD, Voorhout

Inge-Willem Noordergraaf, PhD, affiliated to Groningen University

Marie Louise Oosterloo- van Ree, MD, Rotterdam

Marguerite Pelt, MD, Lelystad

Christel Rombouts, MD, GP, Huisartspraktijk Rombouts, Zevenaar

Sarah Saraiva-Duivenvoorden, MD, AVIG, Schellinkhout

Jes Schalkwijk, MD, Eindhoven

Mirjam Schellekens, MD, Culemborg

Hugo Schooneveld, PhD, Retired Associate professor (Wageningen Agricultural University), Advisor to the Dutch EHS Foundation, former president of 'Stichting elektrohypersensitivity', Wageningen

Edouard Schweden, MD, Baarn

Annemarie Semeijn, MD, Amsterdam

Charlotte P.M. Simons, MD, The Hague

Mirjam Sipma, MD, Dr., Cranio sacral therapist and doctor in Integrative Medicine, Huizen

Maarten Spaargaren, MD, Zutphen

Suzanna Spoelstra, MD, Boxmeer

Sandra.J.J. Theunissen, MD, Obbicht

Hanneke Treep, MD, Apeldoorn

John van der Woude, MD DO, Amersfoort

Marga van Doorn, MD, Haarlem

Marion van Hilten, MD, Angerlo

René van der Reijden, MD, Ede

Ria van Rooijen, MD, Nieuwland, Vijfheerenlanden, Utrecht

An van Veen, MD, Geldrop

Eljanne Wardenier, MD, Family Physician, Beuningen

Ron Velthuis, MD, Gorssel

Huib Wijtenburg, MD, Nijmegen

POLAND

Andrzej Trembaczowski, PhD, Institute of Physics, Maria Curie-Skłodowska University, Lublin

Tomasz Winnicki, Ph.D., D.Sc., Professor, Karkonosze College, Rector-Senior (former President) University School of Applied Sciences in Kalisz (PWSZ)

Karolina M. Zielińska-Dabkowska, Asst. Prof. Dr., Co-founder & Co-director of GUT LightLab, Gdansk University of Technology (GUT), Gdansk

PORTUGAL

Maria José Castro, Assistant professor, Universidade do Algarve

Sandra Cruz, phd In Biology, Iscad and Ualg, Lisboa

Jorge Guilherme, Professor, Electrical Engineering Department, Escola Superior Tecnologia de Tomar

Igor Khmelinskii, PhD, Prof. Agregado, FCT, DQF and CEOT, University of the Algarve, Faro

Alexandrina Mendes, MD, Ob/Gyn specialist, Working at CMIN-CHUP, Porto

Margarida Silva Ph.D. Professor, Portuguese Catholic University, Porto

Paulo Vale, PhD, Auxiliary Researcher, Sea and Marine Resources Department, The Portuguese Sea and Atmosphere Institute, Lisbon

SLOVAKIA

Igor Belyaev, PhD, Dr.Sc, Associate Professor, Cancer Research Institute, BMC SAS, Bratislava

Jan Jakus, MD, PhD, DSc., Professor, Jessenius Faculty of Medicine, Comenius University, Martin

Ladislav Janousek, PhD, Professor, Department of Electromagnetic and Biomedical Engineering, Faculty of Electrical Engineering, University of Zilina, Žilina

Michal Teplan, PhD, Institute of Measurement Science, Slovak academy of sciences, Bratislava

SLOVENIA

David Neubauer, MD, PhD. Professor, Department of Child, Adolescent & Developmental Neurology, University Children's Hospital, Bohoriceva 20, Ljublana

Renata Sribar, PhD, Associate Professor, AMEU-ISH – Postgraduate School of Humanities, and Centre FemA – Institute for transformation studies and agency, Ljubljana

SPAIN

Alfonso Balmori, BSc, Master in Environmental Education, Biologist. Junta de Castilla y León, Valladolid

José Luis Bardasano, PhD, Biologist and Physician, Prof. of Medical Bioelectomagnetism, Department of Medicine and Medical Specialties, School of Medicine, University of Alcalá. Alcalá de Henares, Madrid

*Dr. Eline De Vrie*s, PhD in consumer neuroscience, Assistant Professor of Marketing, Department of Business Administration, University Carlos III Madrid (UC3M)

Claudio Gómez-Perretta, MD, PhD, Chief of Section, Hospital Universitario La Fe, Valencia

José Luis Espinosa MD, Specialist in family and community medicin, Psychotherapist, Colegio oficial de médicos de Jaén, Cazorla, Jaén

Miguel Lopez-Lazaro, PhD, Associate Professor, Department of Pharmacology, Faculty of Pharmacy, University of Seville

María Elena López Martín, MD, PhD, Associate Professor of Human Anatomy, School of Medicine, University of Santiago de Compostela (USC)

Francisca López Torrecillas, Ph.D. Psychology, Professor University of Granada, Granada

Ceferino Maestu Unturbe, Ph.D, Prof., Director of the Bioelectromagnetism Laboratory of the Centre for Biomedical Technology (CTB), Polytechnic University of Madrid (UPM).

Pilar Muñoz-Calero, MD, President of the Fundación Alborada, Co-director of the Chair of Pathology and Environment, Faculty of Medicine, Universidad Complutense de Madrid (UCM), Madrid

Enrique A. Navarro, PhD, Professor, University of Valencia, Valencia

Berenice Valdés-Conroy, PhD Psychology, Lecturer, Departamento de Psicología Experimental, Procesos Psicológicos y Logopedia, Faculty of Psychology, Universidad Complutense de Madrid

SWEDEN

Mikko Ahonen, PhD, researcher, Sundsvall

Michael Carlberg, MSc, Department of Oncology, Faculty of Medicine and Health, University Hospital, Örebro

Anita Ejrup, MD, Stockholm

Mikael Eriksson, MD, PhD, Associate Professor, Department of Oncology, Skane University, Hospital, Lund

Jerry Eriksson, PhD, molecular biology, formerly Umeå University, Vännäs

Lennart Hardell, MD, PhD, retired Associate Professor, Department of Oncology University Hospiatal, Örebro. Present: The Environment and Research Foundation, Örebro, Sweden

Lena Hedendahl, MD, Independent Environment and Health Research, Luleå

Gunilla Ladberg, PhD, Member of the Board of the Swedish association Vågbrytaren, Lidingö

Leif G. Salford, MD, PhD, Senior Professor of Neurosurgery, Director of the Rausing Laboratory for Translational NeuroOncology, Lund University, Lund

Lena Lidström, PhD in Education, Sundsvall

Elsy-Britt Schildt, MD, PhD, Senior Consultant, Department of Oncology and Radiation, County Hospital, Kalmar

Fredrik Söderqvist, PhD, Epidemiologist, Centre for Clinical Research, Uppsala University, Västerås

Ulrika Åberg, MD, Skövde

Agneta Önfelt PhD, former Associate Professor, Genetic and Cellular Toxicology, Stockholm University

UK

Maria Castro, Professional Doctorate in Clinical Psychology, London

Nyjon Eccles BSc MBBS MRCP PhD, Medical Director, The Natural Doctor, HB Health, CHART, London

David Gee, Visiting Fellow, Institute of Environment, Health and Societies, Brunel University, London

Andrew Goldsworthy, BSc, PhD, Lecturer in Biology (retired), Imperial College London, Monmouth

Gabriela Gomes, PhD, Dr, Liverpool School of Tropical Medicine, Liverpool

Isaac Jamieson, PhD, DIC, RIBA, Dip AAS, BSc(Hons) Arch., Biosustainable Design, Aberdeen, UK International Expert, Thammasat University, Pathumthani, Thailand.

Gregory P. King, B.S. Physics, PhD Physics. Dr., College of Marine Sciences, University of South Florida, St Petersburg, FL, Selkirk (Scottish Borders)

Erica Mallery-Blythe, MD, BMBS, Founder of PHIRE (Physicians' Health Initiative for Radiation and Environment) Trustee Radiation Research Trust, Medical Advisor ORSAA (Oceana Radiofrequency Advisory Association), Medical Advisor ES-UK, Soton

Anita Neilson, RGN, RTN, Dip DN, BA (Hons), MEd, PhD, Glasgow

Kevin T. O'Byrne, professor, Department of Women and Children's Health, School of Life Course Sciences, King's College London

Richard O'Byrne, MBBS. BSc., Anaesthetist, Liverpool

Karl Partridge, BA, PhD, MCIEEM, Environmental Consultant, Crossgar, Downpatrick, Northern Ireland.

Alasdair Philips, BSc, DAgE, Professional engineer, Powerwatch

Jessica Robinson, BSc(Hons) MB.BS. MRCPsych. MFHom, MD, East Sussex

Andrew Rollinson, PhD, Loughborough University, Yorkshire

Syed Ghulam Sarwar Shah, MBBS, MA, MSc, PhD, Post-Doctoral Research Fellow, Department of Occupational Health, Guy's and St. Thomas' NHS Trust; Honorary Research Fellow, Department of Clinical Sciences, Brunel University, London

Cyril W. Smith, PhD, DIC, CEng, FIET; CPhys, MInstP, MIPEM, Life SMIEEE, co-author "Electromagnetic Man"

Sarah Starkey, PhD, Independent Neuroscience and Environmental Health Research

Andrew Tresidder, MD, MBBS, MRCGP, Somerset

Robert Verkerk, MSc DIC PhD FACN, Founder, executive and scientific director, Alliance for Natural Health International, Dorking

Lauraine Vivian, PhD Psychiatry and Anthropology, Dr, Section of Global Health, University of Copenhagen, Earlston, Berwickshire.

Other Nations

ARGENTINA

Medardo Avila Vazquez, MD, Pediatrician and Neonatologist, Professor, Chair of Pediatric Clinic, Faculty of Medical Sciences, National University of Cordoba, Chair of Pediatrics of the Faculty of Medical Sciences of the National University of Cordoba,

ARMENIA

Sinerik Ayrapetyan, PhD, Professor, Life Sciences International Postgraduate Educational Center, UNESCO Chair in Life Sciences, Yerevan, Head of Research Council and Chairholder of UNESCO Chair

AUSTRALIA

Priyanka Bandara, PhD, Environmental Health Consultant, Castle Hill/Sydney, NSW

Russel Cooper, MBBCh MSc, Tasmania

Katherine Georgouras, OAM, DDM, FACD, Professor of Dermatology, (semiretired) ,Kenthurst NSW

Ayman Hasan, MD, ND, private practice, Sydney

Marika Heblinski, Master of Human Nutrition, Master of Science, PhD – Neuropharmacology, The University of Sydney, Sydney

Ray Kearney OAM, PhD, Honorary Assoc. Professor (retired), Department of Medicine, University of Sydney

Victor Alan Leach, M.Sc.(Melb), FRMIT Applied Physics. MARPS, MORSAA, (retired Radiation Health Physicist), Founding Member of Oceana Radiofrequency Advisory Association (ORSAA), Newport, Queensland

Don Maisch, PhD, Independent researcher, author of "The Procrustean Approach", Lindisfarne, Tasmania

Murray May, PhD, Independent Environmental Health researcher, Canberra

Julie McCredden, PhD, Educational Researcher, Univ. of Queensland, President of ORSAA, Brisbane

Elena Pirogova, PhD, Associate Professor, Biomed Eng, BEng (Hons) Chem En, Discipline of Electrical and Biomedical Engineering, School of Engineering, RMIT University

Charles Teo, AM, MBBS, Professor, Neurosurgeon, Prince of Wales Private Hospital, Randwick, NSW, Sydney

José van der Akker, PhD, The Centre for Regional Advancement in Learning, Equity, Access & Participation (LEAP) | School of Education and the Arts, CQUniversity

Steve Weller, BSc, Founding member of ORSAA, Brisbane

BRAZIL

Adilza Condessa Dode, PhD, Admin. Director of MRE ENGINEERING – Electromagnetic Radiations Measurement Ltd., Engineerings' Professor at the "Centro Universitário Metodista de

Minas Izabela Hendrix" ("Izabela Hendrix Minas State Methodist University Center"), Belo Horizonte city

Orlando Furtado Vieira Filho, PhD, Professor, Cellular & Molecular Biology, Federal University of Rio Grande do Sul

Claudio Enrique Fernández-Rodríguez, PhD, MSEE, Professor, Federal Institute of Rio Grande do Sul, IFRS, Canoas

Alvaro Augusto A. de Salles, PhD, Full Professor, Federal University of Rio Grande do Sul, UFRGS, Porto Alegre

Francisco de Assis Ferreira Tejo (retired) D.Sc., Professor, Grupo de Eletromagnetismo Computacional e Bioeletromagnetismo, Electrical Engineering Dept, Universidade Federal de Campina Grande

CANADA

Luc Boucher, Ph.D. Biomed. Eng., B. Eng. Physics, Polytechnique Montreal

Frank Clegg, CEO, Canadians for Safe Technology (C4ST); Former President of Microsoft Canada

Magda Havas, Associate Professor, Trent University, Canada

Paul Héroux, PhD, Occupational Health Program Director, Department of Epidemiology, Biostatistics and Occupational Health, McGill University Medicine, Montreal, PQ

Anthony B. Miller, MD, FRCP, Professor Emeritus, Dalla Lana School of Public Health, University of Toronto,

Malcolm Paterson, PhD, Director, Research Initiatives, BC Cancer Agency Sindi Ahluwalia, Hawkins Centre for the Southern Interior, Kelowna, BC

Michael A. Persinger, PhD, Professor, Biomolecular Sciences, Behavioural Neuroscience and Human Studies, Laurentian University, Sudbury, Ontario

Barbara Powell, MD, CCFP, FCFP, University of Ottawa, Ottawa, Ontario,

Stoyan Sarg Sargoytchev, Diploma Engineer and PhD in Physics, Retired from York University, Toronto

Kliment Stefanovski, Medical Doctor, Master of Science, Medical Biochemistry Specialist, Medical Lab Technologist, Core Laboratory, St. Paul's Hospital, Vancouver BC

Hélène Vadeboncoeur, M.Sc, Ph.D. Childbirth researcher (retired), Qc, Canada

CHINA

Wenjun Sun, PhD, Professor, Bioelectromagnetics Key Laboratory, Zhejiang University, School of Medicine, Hangzhou

Minglian Wang, M.M., PhD, Associate Professor, College of Life Science & Bioengineering, Beijing University of Technology (BJUT), Beijing

COLOMBIA

Carlos Sosa, MD, University of Antioquia, Medellín

EGYPT

Nasr Radwan, Prof. Dr., Cairo University, Faculty of Science, Cairo

INDIA

Ganesh Chandra Jagetia, Professor, Just retired from Department of Zoology, Mizoram University, Aizawl, Udaipur

Ashish Mehta, MD, Spinal and Neurological Surgeon, Mumbai

Girish Kumar, Professor, Electrical Engineering Department I.I.T. Bombay, Powai, Mumbai

Omana Mammen, PhD and M.Tech in Computer Engineering, B.Tech in Electronics & Communication Engg, Retired Principal Engineer, Launch Vehicle Flight Computer Checkout Systems, Indian Space Research Organisation (ISRO), Former HOD R&D, at Sarabhai Institute of Science and Technology

Sareesh Naduvil Narayanan, PhD, Assistant Professor, Department of Physiology, RAK College of Medical Sciences, RAK Medical & Health Sciences University, Ras Al Khaimah, UAE

Muthiah Ramanathan, PhD, B.E. (Chemical), Annamalai University, India, M.S (Fuels Engineering), University of Utah, USA, Ph.D, Indian Institute of Technology, Kharagpur, India

Praveen Kumaar Saxenaa, MBBS, DMRD, FCMT, Dr Managing Director, Hyderabad

S. Sharma, PhD, Head, Scientist – G & Sr. DDG, Div. of Reproductive Biology, Maternal & Child Health and Chief Project Coordinator – EMF Health Project India, Indian Council of Medical Research, Ansari Nagar, New Delhi

IRAN

Amirnader Emami Razavi, PhD, Executive Manager and Principal Investigator of Iran, National Tumor Bank, Cancer Institute of Iran, Tehran University of Medical Sciences

Dr. Masood Sepehrimanesh, PhD, Assistant Professor, Gastrointestinal and Liver Disease Research Center, Guilan University of Medical Sciences, Rasht

ISRAEL

Iris Atzmon, PhD, Author of "The Cellular, not what you thought!," Haifa

Daniel Mishori (Ph.d), The Department of Environmental Studies, Porter School of the Environment and Earth Sciences, Faculty of Exact Sciences, Tel Aviv University

Michael Peleg, M.Sc., Radio Communications Engineer and Researcher, Technion, Israel Institute of Technology, Haifa

Elihu D Richter, MD MPH, Professor, Occupational and Environmental Medicine, Hebrew University-Hadassah School of Public Health and Community Medicine, Jerusalem

Yael Stein, MD, Hebrew University – Hadassah Medical Center, Jerusalem

Danny Wolf, MD, Pediatrician, Clialit Health Services Raziel, Netanya Herzelia

IVORY COAST

Paul Ahouassa, PhD, Court Expert (Electromagnetism), Abidjan

JAPAN

Hidetake Miyata, PhD, Associate professor, Department of Physics. Tohoku University

JORDAN

Mohammed Saleh Al Salameh, PhD, Professor, Department of Electrical Engineering, University of Science & Technology, Irbid

KOREA (South)

Kiwon Song, PhD, Professor, Department of Biochemistry, Yonsei University, Seoul

Young Hwan Ahn, MD PhD, Professor, Department of Neurosurgery, Ajou University School of Medicine, Suwon

NEW ZEALAND

Tracy Chandler, BSc (Hons) MBChB FRNZCGP FNZSCM, PGDipSEM, Cert Dermoscopy, Cert Homeopathy, MACNEM member.

Daniela Erdmann, MD, MBChB, Dip O & G, General Practitioner, Student Health Services, University of Otago

Deborah Fewtrell, MD, MB ChB, Dip Obs, RNZCGP FACNEM, Ex Education Chair and Vice President and current Advocacy representative for Australasian College of Nutritional and Environmental Medicine, Kerikeri

Adeline Lee, MD, MbChB (Otago), DipObsMedGyn, DipPaed, FRNZCGP

Mary Redmayne, PhD, Independent Researcher, Consultant and Educator in Environmental Health (Transmitting Technology)

Caroline Wheeler, BSc, MBchB (MD), Specialist in Functional Medicine, Nelson

Damian Wojcik, MD, MBChB, Medical director/ Northland Environmental health Clinic, Whangare, Northland

NIGERIA

Aneyo Idowu Ayisat, M.Sc., Lecturer, Environmental Biology Unit, Biological Science Department, Yaba College of Technology, Yaba, Lagos

NORWAY

Einar Flydal, cand.polit. & Master of Telecom Strategy, retired senior adviser Telenor Research and Development, Oslo

OMAN

Dr Najam Siddiqi, MBBS, PhD, Associate Professor of Anatomy, Oman Medical College, Sohar

RUSSIAN FEDERATION

Yury Grigoriev, Professor, M. Dr Sci., Federal. Medical Biophysical Center, Moscow

Maxim V. Trushin, PhD, Associate Professor, Kazan Federal University, Kazan

SWITZERLAND

Daniela Elisabeth Eigenmann, PhD, Pharmacist, Bahnhof Apotheke Langnau AG and University of Basel

Daniel Favre, Dr. phil., Biologist, Independent Researcher, Brent

Peter Meier, MD, Facharzt für Innere Medizin FMH, M.Sc. Präventivmedizin, Mitglied der European Academy for Environmental Medicine, Sissach

Michaela Glöckler, MD., Dr. h.c., Pediatrician, Head of the Medical Section of the Goetheanum/Dornach

TURKEY

Osman Cerezci, Professor Dr., Dept. Electrical-Electronics Engineering, Sakarya University, Adapazarı

Suleyman Dasdag, PhD, Prof. Dr., Biophysics Department, Medical School, Istanbul Medeniyet University, Uskudar, Istanbul

Onur Elmas, MD, PhD, Faculty of Medicine, Dept. Of Physiology, Mugla Sitki Kocman University, Mugla

Ayse Inhan Garip, Assoc. Prof., School of Medicine, Biophysics Dept., Marmara Univ., Istanbul

Suleyman Kaplan, PhD, Professor, President of Turkish Society for Stereology, Board member of Journal Chemical Neuroanatomy (Elsevier), Board member of Journal of Microscopy and Ultrastructure (Elsevier), Department of Histology and Embryology, Ondokuz Mayıs University, Samsun

Fulya Kunter, Assistant Professor Dr., Dept. Electrical-Electronics Engineering, Marmara University, Istanbul

Selim Şeker, Professor Dr., Department of Electrical-Electronics Engineering, Bogazici University

Bahriye Sirav Aral, PhD, Ass. Professor, Gazi University Faculty of Medicine, Dept of Biophysics, Ankara

Nesrin Seyhan, Prof. Dr., Gazi University, Medical Faculty, Founder Head, Biophysics Department, Founding Director, Gazi Non-Ionizing Radiation Protection Centre (GNRK), Ankara

UKRAINE

Olexandr Tsybulin, PhD, Department of Biophysics, Bila Tserkva National Agrarian University

Igor Yakymenko, Prof. Dr, Department of Biochemistry and Environmental Control National University of Food Technologies, Kyiv

USA

David O. Carpenter, MD, Director, Institute for Health and the Environment, A Collaborating Centre of the World Health Organization, University at Albany, Rensselaer, NY

Richard H. Conrad, Ph.D. Biochemist, EMF Research and Consulting, Hawaii

Barry Castleman, ScD, Environmental Consultant, Garrett Park, MD

Lindsay Collins, Doctorate of Pharmacy, Hospital Pharmacist, ASHP, KE, Lathrop, MO

Devra Davis, PhD, MPH, Visiting Prof. Medicine, Hebrew University, Hadassah Medical Center & Ondokuz Mayis University, Medical School (Turkey); Pres., Environmental Health Trust, Teton Village, WY

James DeMeo, PhD, Environmental Scientist, Retired, Ashland, Oregon

Paul Doyon, MA, MAT, EMRS, Independent Researcher, Doyon Independent Research, CA

Arthur Firstenberg, B.A., EMF researcher and author, president Cellular Phone Task Force, New York

Beatrice A. Golomb, MD, PhD, Professor of Medicine, University of California, San Diego, CA

Gunnar Heuser M.D., PhD, F. A.C.P., Emeritus at Cedars Sinai Medical Center, Formally Assistant Clinical Professor of Medicine at UCLA, El Dorado Hills, CA

Edward M. Huff, Ph.D., MA, BS. NASA Senior Scientist (Ret.), Sunnyvale, CA

Peter F. Infante, DrPH, Managing Member, Peter F. Infante Consulting, LLC, VA

Toril H. Jelter, MD, MDI Wellness Center, CA

Heidi Junger, PhD, postgraduate researcher (biology, zoology, Mag.rer.nat, Dr.rer.nat.), San Diego, CA

Elizabeth Kelley, MA, Electromagnetic Safety Alliance, Tucson, AZ

Henry Lai, PhD, Professor Emeritus, University of Washington, Seattle, WA

Blake Levitt, medical/science journalist, former New York Times contributor, EMF researcher and author

Charles Limbach, MD Salinas, CA

Karl Maret, M.D., M.Eng, Dove Health Alliance, Aptos, CA

Andrew A Marino, PhD, JD, Professor, Department of Neurology (ret.), LSU Medical School, Shreveport, LA

Trevor G Marshall, ME, PhD, Director, Autoimmunity Research Foundation, CA

Ronald Melnick, PhD, Senior Toxicologist, (Retired RF-section leader) US National Toxicology Program, National Institute of Environmental Health Science

Kenneth Monar, Ph.D., B.A. Biology/Chemistry, M.S. Botany/Cellular Biology, M.S. Materials Science/Polymer Engineering, Ph.D. Materials Science/Polymer Engineering, Knoxville, TN USA

Lloyd Morgan, Senior Research Fellow, Environmental Health Trust, Board Member, International EMF Alliance (IEMFA), CA

M. J. Mortazavi, PhD, Professor of Medical Physics, Visiting Scientist, Fox Chase Cancer Center, Philadelphia, PA

Joel M. Moskowitz, PhD, Director, Center for Family and Community Health, School of Public Health, University of California, Berkeley, CA

Martin Pall, BA, PhD, Professor Emeritus (Biochemistry and basic medicine), Washington State University, Pullman, WA

Jerry L. Phillips, PhD, Exec. Director, Excel Centers, Professor Attendant, Department of Chemistry & Biochemistry, University of Colorado, Colorado Springs, CO

Elizabeth Ploetz, PhD, Kansas State University, Manhattan, Kansas

Camilla R. G. Rees, MBA, Health Researcher, Author,"The Wireless Elephant in the Room" CEO, Wide Angle Health, Sr. Policy Advisor, National Institute for Science, Law & Public Policy, NY

*Elizabeth Rover*e, MA, MTS, PsyD, Faculty and Board Member, Nalanda Institute Consulting Clinical Psychologist, New School University, New York, NY, Dean's Council, Harvard Divinity School, Cambridge

Beverly Rubik, Ph.D., President/founder, Institute for Frontier Science, Oakland, California

Cindy Sage, MA. Sage Associates, Co-Editor, BioInitiative Reports, Santa Barbara, CA

Eugene Sobel, PhD, Professor (Retired), University of Southern California School of Medicine, CA

John G. West, MD, Director of Surgery, Breastlink, CA

Cindy Russell, MD, Executive Director, Physicians for Safe Technology, CA.

Wei-Ching Lee, MD, California Medical Association Delegate of Los Angeles County

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